

Teacher qualification guidelines, ecological literacy and outdoor education.

Peter Martin

La Trobe University

Abstract

A key signpost to a profession is clarity of disciplinary knowledge. In this paper I describe the content and outcome of a process to refine the qualification guidelines for outdoor education teachers in Victorian, Australia. The guidelines, developed for the Victorian Institute of Teaching, include both practical skills and disciplinary knowledge. These can help differentiate outdoor education from other areas such as physical education. The practical skill areas that form the basis of the outdoor education teacher guidelines are summarised in the paper. The disciplinary knowledge required of outdoor education teachers includes content such as human interaction with natural environments, activity knowledge, safety and ecological literacy. Ecological literacy has been less often described in past editions of AJOE. In the latter half of the paper I therefore describe, with reference to David Orr (1992, 2004), the value and relevance of ecological literacy for outdoor education. I conclude that ecological literacy could be developed as a key rationale and practice for outdoor education in schooling.

Introduction

In this paper I describe the content and outcome of the process to refine qualification guidelines for outdoor education teachers in schools in Victoria, Australia. The initial section of the paper explains the role of qualification guidelines for teachers of outdoor education and reports on both practical and disciplinary knowledge areas and how they are described in the qualification guidelines. The latter section explores in more detail the disciplinary knowledge requirements, in particular, the challenges and opportunities presented by the inclusion of ecological literacy as a requirement of an outdoor education teacher's knowledge base.

Qualification guidelines for outdoor education teachers

Outdoor education in government schools in Victoria, Australia takes several forms. It can be: offered as a subject through to senior school; exist as a camps program; underscore experiences in a residential program; or be extra curricula as a club or other endeavour (Lugg & Martin, 2001). Outdoor education as a subject has existed in schools in Victoria since 1982 (VISE, 1982). This was also the year that the Victorian Outdoor Education Association (VOEA) was formed to lobby for, and support, outdoor education teachers. In 2004/5 the Tertiary Advisory Group (TAG), a sub-committee of the VOA, developed a set of qualification guidelines for teachers of outdoor education in schools. Drafts of these guidelines were further developed in two conference workshops (Martin, 2005b, p. 175) and sought to describe the knowledge and skills outdoor education teachers working in Victoria schools ought possess. The format of the guidelines was based on a template

established by the Victorian Institute of Teaching (VIT), a regulatory statutory authority for the teaching profession in Victoria (VIT, n.d). VIT is responsible for registration of teachers in Victorian government, Catholic and independent schools. Similar teacher registration authorities exist for all of Australia's state based education systems.

The outdoor education teacher guidelines first appeared in the VOA news-journal *Journeys* in October 2005 (TAG, 2005), but are not yet fully endorsed by the VIT pending a full review of all subject area guidelines scheduled for 2008/9. Teachers, students and academics currently use the VIT guidelines as a guide to what skills and knowledge a teacher must have to be able to teach in a particular subject area. While the details are guidelines, in practice they become prescriptive. When tertiary institutions construct curricula for teacher training courses for example, they must comply with the VIT guidelines and seek accreditation from the VIT before they can legitimately advertise that their course is suitable for teaching specific subject areas in the Victorian education system. In addition, individual teacher registration is subject to applicants meeting the guidelines.

Developing guidelines for outdoor education in Victoria was therefore a means to both influence tertiary institutions and shape teacher perspectives as well as help the VIT better understand the outdoor education profession and its claims to expertise. In Victoria, since the mid 1990s, the VIT has mandated that an outdoor education teacher have a minimum of one-year equivalent of approved study of outdoor education within their four years of tertiary study. This one-year equivalent could consist of units within a degree, include part of a Diploma of Education, or be a one-year Graduate Diploma of Outdoor Education,

but the mandate lacked any further specificity. The TAG, to help detail the skill and disciplinary content of this one-year of equivalent study, developed the outdoor education specialist guidelines shown in Figure 1. The use of discipline and skill subheadings is consistent with the specialist guideline already in place for teachers of physical education and this served as a model. In many respects modelling the format of outdoor education teacher qualification guidelines on those of physical education helps differentiate the two subjects as it allows direct and easy comparison.

While the VIT sets guidelines for teacher knowledge and competence, once a teacher is registered and has a position within a school, it is the school Principal's responsibility to allot a teacher's duties. The supply of outdoor education qualified teachers falls short of the demand in schools. The last detailed study of outdoor education teacher qualifications in Victorian schools in 1999, showed that a teacher of outdoor education was more likely to have a physical education background (40%) than tertiary outdoor education qualifications (20%) (Lugg & Martin, 2001). A similar situation exists in South Australia (Polley & Pickett, 2003). If outdoor education is conceived as outdoor pursuits (ACHPER, 2004), or primarily envisaged as a personal and group development process¹, then a physical education qualification may well be suitable. However, the VIT in mandating a minimum one-year of specialist training for outdoor education teachers is clearly expressing a preference for specialist knowledge and skills – hence the importance of detailing these.

Skill areas in outdoor education teaching

The outdoor education skill areas are the most easily described and least contentious of the teacher guidelines. What they provide is a balance between outdoor adventure basics such as navigation, bushwalking and flat water paddling, with recognition of the importance of expanded leadership and teaching skills. Acknowledging environmental interpretation as an essential skill for outdoor educators is an important addition. At this point it's worth reiterating that the guidelines outline essential minimum content areas. In articulating the guidelines the TAG were conscious that the content must be feasible within the one-year study span, applicable to a range of differing institutional offerings, yet cover the foundation content of contemporary outdoor education to prepare teachers to teach the existing senior level outdoor education curriculum in Victorian schools.

In 2006 and 2007 the TAG group continued to work towards agreement on *minimum* skills for outdoor education teachers. Consequently, the VOA now endorses a base level statement describing the minimum essential outdoor skills and experience that must be included in courses of study for outdoor educators that involve bushwalking and flat water paddling (Figure 2).

1. Two studies into the nature and scope of outdoor education (Lugg & Martin, 2001; Polley & Pickett, 2003), found teachers rank personal and group development outcomes to be the most important outcomes of outdoor education in schools.

GUIDELINES FOR OUTDOOR EDUCATION (secondary)	
One year of study should include study in the following areas:	
a) Discipline study:	* The educational potential of outdoor experience for sustainability and personal and human development, * Human interaction with natural environments (eg. <i>environmental ethics, sense of place study, environmental history, indigenous relationships with the environment</i>), * Outdoor activity knowledge * Ecological literacy, and * Safety management.
b) Skill areas to include:	* base camping (<i>activities for</i>), * overnight bushwalking (<i>navigation</i>), * flat water paddling, * environmental interpretation, * experiential education facilitation, * organization and risk management planning, * outdoor leadership.

Figure 1. Guidelines for outdoor education teacher qualifications (secondary).

These statements are supported as minimum practices by all of the university outdoor education programs offered in Victoria, although many specialist programs offer far more extensive experience². The intent of these activity statements is to assist employers to better understand the base level technical competence and experience of the teacher graduates in specific skill areas, an area of some existing confusion in the field at large (Munge, 2007).

As a minimum, the holder of this statement has completed 12 days supervised paddling in a range of environments. They will have completed at least one overnight paddling journey in a riverine environment and a flat water rescue component. This experience was gathered in the context of a higher education qualification and is suited to the conduct of outdoor education experiences on inland flat water such as sheltered lakes/dams and slow moving water where there is easy access to shore.

As a minimum the holder of this statement has completed 20 days supervised bushwalking in a range of environments across Victoria. They will have completed at least one overnight camping experience in an Alpine environment as well as a minimum of one four night bushwalking journey. This experience was gathered in the context of a higher education qualification.

Figure 2. Minimum skill experience for outdoor education teachers of bushwalking and flat water paddling.

Discipline studies for outdoor education teachers

While the practical skill areas are perhaps most well understood as important components to outdoor educator teacher training, it is the discipline studies that most distinguish the educational content of outdoor education teacher training from that of physical educators or outdoor recreation leaders. This is doubly so when considering that it is the discipline studies that influence most how practical experiences are shaped, taught and learned.

The disciplines studies consist of five knowledge areas. Two of these areas can be well recognised as being more traditional longstanding content for outdoor education teachers, namely: outdoor activity

knowledge and safety management knowledge. Outdoor activity and safety management knowledge are relatively well known and considered in the outdoor education and outdoor leadership area. Specific conferences on safety management are common enough, and no shortage of literature exists to support knowledge of outdoor activities.

Another discipline area described by the guidelines is *the educational potential of outdoor experience for sustainability and personal and human development*. The knowledge that teachers draw upon to realise educational potential, is what Shulman (1987) referred to as “pedagogical content knowledge” (p. 8). He argued that:

The key to distinguishing the knowledge base of teaching lies at the intersection of content and pedagogy, in the capacity of a teacher to transform the content knowledge he or she possesses into forms that are pedagogically powerful and yet adaptive to the variations in ability and background presented by the students. (p. 15)

The educational potential of outdoor experience to achieve outcomes of personal and human development is familiar territory for outdoor educators. For teachers in Victoria, senior school outdoor education curriculum has had a human development focus since 1990, while claims of personal development remain a mainstay of outdoor education practice. Using outdoor education for sustainability outcomes is a newer focus for outdoor education and this largely relies on the other two discipline content areas, namely; *human interaction with the natural environment* and *ecological literacy*.

How well teachers of outdoor education understand concepts such as ecological literacy is important simply because it determines what is actually emphasised and taught by teachers. Grossman (1995) may well have stated the obvious when his research concluded,

Teachers are likely to emphasize those areas in which they are more knowledgeable and to avoid or de-emphasize the areas in which they have relatively less content knowledge. (In Cutter-MacKenzie & Smith, 2003, p. 499).

Bucknell and Mannion’s (2007) recent questioning of outdoor education students’ potentially simplistic understanding of indigenous knowledge and history, could be one example of how teacher’s are challenged by some outdoor education content material. As Robyn Zink’s (2007) follow-up response demonstrated,

2. In the author’s university a specialist three year outdoor education degree includes over 120 days of practical work in a number of activity areas in addition to academic units.

outdoor education study in senior schooling demands teachers have a critically informed discipline base from which to shape student learning.

In the remainder of this paper I will discuss what ecological literacy might mean in the context of outdoor education discipline studies and consider how outdoor education can promote ecological literacy. The central purpose of this section is to increase professional dialogue about outdoor education's discipline base and to advocate the use of ecological literacy as a central disciplinary platform for outdoor education.

What is ecological literacy, or ecoliteracy

Ecological literacy has been defined as "the ability to use ecological understanding, thinking and habits of mind for living in, enjoying, and /or studying the environment" (Berkowitz, Ford, & Brewer, 2005, p. 228). At a simplistic level, ecological literacy, or its shorthand *ecoliteracy*, means to be literate in our practices and knowledge of the interconnectedness of life on earth. David Orr (1992) in *Ecological Literacy* posited that *ecological literacy* is the ability to ask "what then?" questions (p. 85). By this he means that much of historical as well as contemporary human endeavor has failed to take into consideration the implications of innovation or action in spheres beyond humanity, and times beyond the immediate. A problem, he contends, of failing to think about interconnection and to ground thinking in a breadth of experience with healthy natural systems. Ecological literacy then, is being able to understand the fundamental interconnectedness between humanity and nature. The aim of ecological literacy according to Orr, "is that quality of mind that seeks out connections. It is the opposite of specialization and narrowness of most education" (Orr, 1992, p. 92). A shift of perceptions from understanding of objects to relationships is a key aspect of *systems thinking* which Capra described as the "intellectual core of ecoliteracy" (Capra, 1999, p. 11). Systems thinking also involves perception shifts including from parts to whole, objective knowledge to contextual knowledge, quantity to quality, structure to process, and contents to patterns (see: <http://www.ecoliteracy.org/education/sys-thinking.html>).

The above definitions and discussion perhaps don't immediately make obvious why ecological literacy is something outdoor educators need know and therefore develop in students, although, living in and enjoying the natural environment is a common outdoor education goal. Orr (1992) summarised four reasons why understanding and developing ecological literacy has been difficult for Western culture. In many respects, Orr's summary is a succinct description of four issues that outdoor education confronts.

[Ecological literacy is difficult because...] First, it implies the ability to think broadly...this ability is being lost in the age of specialization.... To think in ecologic fashion presumes a breadth of experience with healthy natural systems, both of which are increasingly rare. Second, we have come to believe education is solely an indoor activity. ... The decline in the capacity for aesthetic appreciation is a third factor working against ecological literacy. We have become comfortable with all kinds of ugliness.... ... [Fourth], to see things in their wholeness is politically threatening. To understand that our manner of living, so comfortable for some, is linked to cancer rates ... the disappearance of tropical rainforests, toxic dumps... and the depletion of the ozone layer is to see the need for a change in our way of life. To see things whole is to see both the wounds we have inflicted on the natural world in the name of mastery and those we have inflicted on our selves and on our children... Real ecological literacy is radicalizing ... it leads to a revitalization and broadening of the concept of citizenship to include membership in a planetwide community of humans and living things. (Orr, 1992, p. 87)

Outdoor education has a long tradition which I believe responds directly to Orr's (1992) four difficulties that make it ideally situated to pursue and embrace ecological literacy as a disciplinary core. Chenery (1994) and Brookes (1994), among others, have previously argued for outdoor education as a means to address the toxic beliefs underpinning western culture, and promoting ecological literacy adds a specific name and goal to that endeavour. Ecological literacy is exactly the sort of learning that outdoor educators are promoting when they encourage students to reflect on how living in, and with, nature differs from students' everyday experience. Fostering time in healthy communities, without mobile phones, television or fast foods, for example, could be a challenge, but it is also a platform to develop reflection and critique. It is this style of outdoor education, that has been variously reflected and described as *place-responsive* (Stewart, 2004; Wattchow, 2007), *critical* (Martin, 1999), or *deep*, (Brookes, 1993) that resonates most with the concepts of ecological literacy.

Ecological literacy then, could well be a term that brings a focus to the enduring notion of outdoor education being about self, others and the natural world (Mortlock, 1984). Read from the perspective of

outdoor education, the following extract from Orr's (1992) work provides a clear rationale for ecological literacy in outdoor education.

The ecologically literate person has the knowledge necessary to comprehend interrelatedness, and an attitude of care or stewardship. Such a person would also have the practical competence required to act on the basis of knowledge and feeling. Competence can only be derived from the experience of doing.... Knowing, caring and practical competence constitute the basis of ecological literacy. (p. 92)

Knowing, caring and practical competence, when related to human/nature relationships is exactly the province of outdoor education, particularly as it has been articulated in outdoor education curriculum documents at the senior school level in Victoria (VCAA, 2005), South Australia (SSABSA, 2005) and Western Australia (Curriculum Council, 2006).

How might outdoor education develop ecological literacy?

David Orr (1992) suggested the common elements in pathways to ecological literacy would include direct experience of the natural world, a role model, and seminal texts. I suspect he would find no argument from outdoor educators on the first two elements. The important role of direct personal experience and a mentor in shaping children's environmental values through to adulthood has also been repeatedly asserted by environmental life history research (Chawla, 1998) in several countries (Palmer, Suggate, Robottom, & Hart, 1999), although critiques of this work are also of interest³. However, the role of germinal texts needs further investigation from an outdoor education perspective.

Orr (1992) argued, "there are seminal books that explain, heighten, and say what we have felt deeply, but not said so well ... [They] serve the function of helping to bring feelings to articulate consciousness" (p. 88). Orr's primary concern was to develop a language that enables effective knowledge and communication about the interconnection of humanity and nature. Finding appropriate language to both express and develop conceptual knowledge about human/nature

relationships is a central issue for outdoor educators (Martin, 2005a). Science too is struggling with how to develop a language appropriate "to embed animistic insights into an expanded science that combines qualities with quantities whilst taking into account the ethical dimensions of participating in a living cosmos" (Harding, 2006, p. 37).

In *Ecological Literacy*, Orr offered a "Syllabus for Ecological Literacy" (1992, p. 109) that includes over 130 articles and texts in 17 thematic areas (pp. 109-124). This is clearly beyond the scope for outdoor education teacher training or professional development, but the notions that human/nature language development are central, and a diverse understanding of nature based philosophies and research equally important, are well founded and highly relevant to outdoor education. It is for exactly these reasons that ecological literacy was listed as a discipline study by the TAG and included as essential content in the education of outdoor education teachers. Concepts such as biophilia (Wilson, 1984), deep ecology (Sessions, 1995), bioregionalism (Sale, 1991), sense of place (Seddon, 1997), nature deficit disorder (Louv, 2005), ecological feminism (Warren, 1990), and critiques of environmental worldviews, to list a few, are not new ideas but significantly contribute to an outdoor educator's capacity to introduce students to a language and set of concepts that enable critique and understanding of contemporary human/nature relationships. It is this knowledge, in concert with direct personal outdoor experience and mentorship, that helps develop ecoliteracy.

In 1992 Orr also argued that "ecological literacy is today more difficult because there is less opportunity for direct experience of nature" (1992, p. 89). A decade and half later, with urbanization unabated, direct experience of nature is no more easily gained. This is therefore exactly the role of outdoor education; to provide all school students with formative direct experiences outdoors, and is probably the one unifying element of all manifestations of outdoor education that teachers hold dear, and needs little further explanation. The sort of environmental knowledge outdoor education ought promote is one founded in direct experience of place, based on ecological principles and ultimately seeking a passion for continuing a relationship based on care and respect. I concur with Orr who concluded, "Even a thorough knowledge of the facts of life and of the threats to it will not save us in the absence of the feeling of kinship of life of the sort that cannot entirely be put into words (Orr, 1992, p. 87). I think it is vital for outdoor education to retain the passion that underlies enjoyment of being outdoors engaged in fun, often adventurous activity. Outdoor education is not geographical fieldwork, environmental science or studies. In its pursuit of ecological literacy outdoor education needs to remain holistic, continuing to draw on affective dimensions as well as cognitive and psychomotor domains

³ See the journal of *Environmental Education Research* (1999) vol. 5, #4. Such critiques point to a lack of a casual relationship between adults' recollections of their childhood and current environmental behaviour, methodological challenges in sampling only environmental activists and the ways respondents may reconstruct their pasts in light of current and future imperatives. While such critiques help ensure we are not simply reproducing imagined pasts as the best options for today's youth, they do not deny a correlation.

– the heart, hands and head of education. This was encapsulated by Thomashow paraphrasing Orr in his description of ecoliteracy:

Ecological literacy conveys an attitude driven by the sense of wonder, the sheer delight in being alive in a mysterious, beautiful world. It promotes the importance of place, the ability to observe a landscape and to read its ecological nuances, the intimate knowledge of local ecology, a kinship for life, an aesthetic appreciation. These qualities are derived from familiarity, observation, study, open-mindedness, concern and love. (Thomashow, 1996, p. 175)

A conclusion – ecoliteracy in practice.

For teachers of outdoor education, ecological literacy needs to be translated into outcomes for students. It is perhaps easiest for outdoor educators to think of the ecologically literate student as someone who:

- Is comfortable outdoors;
- Seeks encounters with nature for recreation and health;
- Has the knowledge and skills to safely and enjoyably explore nature while minimising impact;
- Has a well developed understanding and sense of place from both personal experience and academic investigation;
- Understands and values interrelatedness between humans and nature (systems thinking);
- Nourishes community and connections to place;
- Has a deeply *felt* concern, even love, for the well-being of the Earth and all living things (Stewardship);
- Maintains sustainable environmental beliefs and practices informed by principles of ecology, critical thought, judgement and action.

Including ecological literacy in the discipline base of outdoor education teachers provides a direction for outdoor education in schooling. The list of outcomes above would require teachers who have such disciplinary knowledge – and that is the intent of the VIT guidelines.

It ought now be clear to Western civilization that it is impossible for us to reshape the planet in a sustainable way. Rather, we need to reshape ourselves. Outdoor education must play a significant role here and it must start with developing in every young

person a love and respect for nature and the capacity to understand and think about our connectedness to the earth. That is why the first outcomes of ecological literacy for students of outdoor education must be comfort with and personal desire to be in nature. It's an emotional base, founded in love and respect, that drives action.

We cannot win this battle to save species and environments without forging an emotional bond between ourselves and nature as well – for we will not fight to save what we do not love. (Stephen J Gould in Orr, 2004, p. 140)

References

- ACHPER. (2004). *Professional competencies for beginning teachers of secondary physical education*. Melbourne: The Australian Council for Health, Physical Education and Recreation, Victorian Branch.
- Berkowitz, A. R., Ford, M., & Brewer, C. A. (2005). A framework for integrating ecological literacy, civics literacy and environmental citizenship in environmental education. In E. A. Johnson & M. J. Mappin (Eds.), *Environmental education and advocacy: Changing perspectives of ecology and education* (pp. 227-266). Cambridge: Cambridge University Press.
- Brookes, A. (1993). Deep and shallow outdoor education: Can we tell the difference? *The Outdoor Educator*, June, 8-16.
- Brookes, A. (1994). Reading between the lines: Outdoor experience as environmental text. *Journal of Physical Education Recreation and Dance*, 65(8), 28-33.
- Bucknell, C., & Mannion, A. (2007). Relationships with the Australian environment over time: A response to student ideas and answers from the 2006 VCE OES exam. *Journeys*, February, 8-10.
- Capra, F. (1999). *Ecoliteracy: The challenge for education in the next century*. Liverpool Schumacher Lectures
- Chawla, L. (1998). Significant life experiences revisited: A review of research on sources of environmental sensitivity. *The Journal of Environmental Education*, 29(3), 11-21.
- Chenery, M. F. (1994). Looking back from the bush. A view of eco-ethical thinking from the perspective of Australian outdoor education. Paper presented at the ART seminar on eco-ethical thinking in cross-cultural perspectives, University of the Saarland (Germany).
- Curriculum Council. (2006). *Outdoor education: Accreditation draft*. Perth: Western Australian Curriculum Council.

- Cutter-MacKenzie, A., & Smith, R. (2003). Ecological literacy: The 'missing paradigm' in environmental education (part one). *Environmental Education Research*, 9(4), 497-523.
- Harding, S. (2006). *Animate Earth. Science, intuition and Gaia*. Devon: Green Books.
- Louv, R. (2005). *Last child in the woods*. Chapel Hill, NY: Algonquin Books.
- Lugg, A., & Martin, P. (2001). The nature and scope of outdoor education in Victorian schools. *Australian Journal of Outdoor Education*, 5(2), 42-48.
- Martin, P. (1999). Critical outdoor education and nature as friend. In J. Miles & S. Priest (Eds.), *Adventure education* (2nd ed., pp. 463-471). State College, PA: Venture.
- Martin, P. (2005a). Human to nature relationship through outdoor education. In T. Gray, T. Dickson & B. Hayllar (Eds.), *Outdoor and experiential learning: Views from the top* (pp. 28-52). Otago, NZ: Otago University Press.
- Martin, P. (2005b). Outdoor leadership competence in academic pathways: Or how can 4-year trained teachers of outdoor education demonstrate competence? Paper presented at the 14th National Outdoor Conference, Gold Coast, Queensland.
- Mortlock, C. (1984). *The adventure alternative*. Cumbria: Cicerone.
- Munge, B. (2007). *A study of Australian Employers' perceptions of La Trobe University Bachelor of Arts Outdoor Education graduates*. Unpublished Hons, La Trobe, Bendigo.
- Orr, D. (1992). *Ecological literacy: Education and transition to a postmodern world*. Albany: State University of New York Press.
- Orr, D. (2004). *Earth in mind*. Washington: Island Press.
- Palmer, J., Suggate, J., Robottom, I., & Hart, P. (1999). Significant life experiences and formative influences on the development of adults' environmental awareness in the UK, Australia and Canada. *Environmental Education Research*, 5(2), 181-200.
- Polley, S., & Pickett, B. (2003). The nature and scope of outdoor education in South Australia. *Australian Journal of Outdoor Education*, 7(2), 11-18.
- Sale, K. (1991). *Dwellers in the land: The bioregional vision*. Philadelphia: New Society.
- Seddon, G. (1997). *Landprints: Reflections on place and landscape*. Melbourne: Cambridge University Press.
- Sessions, G. (Ed.). (1995). *Deep ecology for the 21st Century: Readings on the philosophy and practice of the new environmentalism*. Boston: Shambhala.
- Shulman, L. S. (1987). Knowledge and teaching: Foundations for educational reform. *Harvard Educational Review*, 57, 1-22.
- SSABSA. (2005). *Outdoor and Environmental Education curriculum statements: 2007*. Adelaide: Senior Secondary Assessment Board of South Australia.
- Stewart, A. (2004). Decolonising encounters with the Murray River: Building place-responsive outdoor education. *Australian Journal of Outdoor Education*, 8(2), 46-53.
- TAG. (2005). Professional knowledge and skills required of secondary outdoor education teachers. *Journeys*, October, 17-18.
- Thomashow, M. (1996). *Ecological identity: Becoming a reflective environmentalist*. Cambridge, MA: The MIT Press.
- VCAA. (2005). *Outdoor and Environmental Studies: Victorian Certificate of Education Study Design*. Melbourne: Victorian Curriculum and Assessment Authority.
- WISE. (1982). *Higher School Certificate Course Description, Outdoor Education, Group 2*. Melbourne: Victorian Institute of Secondary Education.
- VIT. (n.d). *The Victorian Institute of Teaching*. Retrieved September 4, 2007, from http://www.vit.vic.edu.au/files/documents/1122_DL_brochweb.pdf
- Warren, K. J. (1990). The power and promise of ecological feminism. *Environmental Ethics*, 12(2), 125-146.
- Wattchow, B. (2007). Playing with an unstoppable force: Paddling, river-places and outdoor education. *Australian Journal of Outdoor Education*, 11(1), 10-20.
- Wilson, E. (1984). *Biophilia: The human bond with other species*. Cambridge, MA: Harvard University Press.
- Zink, R. (2007). Can we move beyond 'Indigenous good, non-Indigenous bad' in thinking about people and the environment. *Australian Journal of Outdoor Education*, 11(2), 3-9.

About the author

Peter Martin PhD has worked in outdoor education since the late 1970s and been centrally involved in writing outdoor education curriculum at the secondary and tertiary level. A member of La Trobe's Centre for Excellence in Outdoor Education and Environment he strives to encourage debate and clarity about outdoor education's contribution to environmental and human futures. Email: p.martin@latrobe.edu.au

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.